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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,914	09/15/2003	Xingen Lei	19603/4261 (CRF D-2895A)	2510
7590 03/22/2006			EXAMINER	
Michael L. Goldman, Esq. NIXON PEABODY LLP Clinton Square P.O. Box 31051 Rochester, NY 14603			MEAH, MOHAMMAD Y	
			ART UNIT	PAPER NUMBER
			1652	
DATE MAILED: 03/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,914	LEI ET AL.	
	Examiner	Art Unit	
	Mohammad Meah	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-92 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-92 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

The claims 1-92 are pending in the instant office action.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

The inventions are distinct, each from the other because of the following reasons:

Group 1. Claims 1, 2, 10, 12, 14 and 16-31, drawn to isolated nucleic acids,

vectors and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 50 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 2. Claims 1, 3, 10-14 and 16-31, drawn to isolated nucleic acids, vectors

and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 91 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 3. Claims 1, 4 and 10-31, drawn to isolated nucleic acids, vectors and

host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 94 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 4. Claims 1, 5 and 10-31, drawn to isolated nucleic acids, vectors and

host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 228 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 5. Claims 1, 6, 10, 12 and 14-31, drawn to isolated nucleic acids, vectors and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 262 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 6. Claims 1, 7 and 10-31, drawn to isolated nucleic acids, vectors and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 300 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 7. Claims 1, 8, 10-14 and 16-31, drawn to isolated nucleic acids, vectors and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 301 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 8 Claims 1, 9, 10, 12, 14 and 16-31, drawn to isolated nucleic acids, vectors and host cells encoding a mutant *Aspergillus niger* encoding phytase having a modification of amino acid residue 363 and expression of said nucleic acids, classified in class 435, subclass 252.3.

Group 9. Claims 32-35, 43, 45, 47, 49-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 50 and method of making said mutant pytase, classified in class 435, subclass 201.

Group 10. Claims 32-34, 36, 43-47, 49-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 92 and method of making said mutant pytase, classified in class 435, subclass 201.

Group 11. Claims 32-34, 37, 43-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 94 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 12. Claims 32-34,38, 43-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 228 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 13. Claims 32-34, 39, 43, 45, 47-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 262 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 14. Claims 32-34, 40, 43-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 300 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 15. Claims 32-34, 41, 43-47, 49-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 303 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 16. Claims 32-34, 42-43, 45, 47, 49-53, drawn to mutant *Aspergillus niger* phytase having a modification of amino acid residue 363 and method of making said mutant pyrase, classified in class 435, subclass 201.

Group 17. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 50 in the amino acid sequence altered classified in class 426, subclass 2.

- Group 18. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 91 in the amino acid sequence altered classified in class 426, subclass 2.
- Group 19. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 94 in the amino acid sequence altered classified in class 426, subclass 2.
- Group 20. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 228 in the amino acid sequence altered classified in class 426, subclass 2.
- Group 21. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 262 in the amino acid sequence altered classified in class 426, subclass 2.
- Group 22. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 300 in the amino acid sequence altered classified in class 426, subclass 2.
- Group 23. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein

the position 301 in the amino acid sequence altered classified in class 426, subclass 2.

Group 24. Claims 54-61, drawn to method of feeding foodstuff comprising isolated phytase comprising amino acid sequence SEQ ID NO: 4, wherein the position 363 in the amino acid sequence altered classified in class 426, subclass 2.

Group 25. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 50 in the amino acid sequence altered classified in class 426, subclass 63.

Group 26. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 91 in the amino acid sequence altered classified in class 426, subclass 63.

Group 27. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 94 in the amino acid sequence altered classified in class 426, subclass 63.

Group 28. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 228 in the amino acid sequence altered classified in class 426, subclass 63.

Group 29. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 262 in the amino acid sequence altered classified in class 426, subclass 63.

Group 30. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 300 in the amino acid sequence altered classified in class 426, subclass 63.

Group 31. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 301 in the amino acid sequence altered classified in class 426, subclass 63.

Group 32. Claims 62-71 and 91, drawn method of improving nutritional value of food by using isolated phytase comprising amino acid sequence SEQ ID NO: 4, wherein the position 363 in the amino acid sequence altered classified in class 426, subclass 63.

Group 33. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant pytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 50 in the amino acid sequence altered classified in class 435, subclass 168.

Group 34. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein

the position 91 in the amino acid sequence altered classified in class 435, subclass 168.

Group 35. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 94 in the amino acid sequence altered classified in class 435, subclass 168.

Group 36. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 228 in the amino acid sequence altered classified in class 435 subclass 168.

Group 37. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 262 in the amino acid sequence altered classified in class 435 subclass 168.

Group 38. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 300 in the amino acid sequence altered classified in class 435 subclass 168.

Group 39. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 301 in the amino acid sequence altered classified in class 435, subclass 168.

Group 40. Claims 87-90, drawn to method of hydrolysis of phytase using a mutant phytase comprising amino acid sequence SEQ ID NO: 4, wherein the position 363 in the amino acid sequence altered classified in class 435, subclass 168.

Group 41. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 50 in the amino acid sequence altered classified in class 800, subclass 288.

Group 42. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 91 in the amino acid sequence altered classified in class 800, subclass 288.

Group 43. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 94 in the amino acid sequence altered classified in class 800, subclass 288.

Group 44. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 228 in the amino acid sequence altered classified in class 800, subclass 288.

Group 45. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase

comprising amino acid sequence SEQ ID NO: 2, wherein the position 262 in the amino acid sequence altered classified in class 800, subclass 288.

Group 46. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 300 in the amino acid sequence altered classified in class 800, subclass 288.

Group 47. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 2, wherein the position 303 in the amino acid sequence altered classified in class 800, subclass 288.

Group 48. Claim 92, drawn method of making transgenic plant with improved improving nutritional value using nucleic acid encoding phytase comprising amino acid sequence SEQ ID NO: 4, wherein the position 363 in the amino acid sequence altered classified in class 800, subclass 288.

Group 49. Claims 72-73, 74, 81, 83 and 85, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 50 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 50. Claims 72, 74, 81, 83 -85, , drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 92 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 51. Claims 72, 75, 81-86, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 94 in the amino acid sequence is altered, altered, classified in class 435, subclass 440.

Group 52. Claims 72, 76, 81-86, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 228 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 53. Claims 72, 77, 81, 83, 85 and 86, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 262 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 54. Claims 72, 78, 81-86, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 300 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 55. Claims 72, 79, 81-85, , drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence of SEQ ID NO: 2, wherein the position 303 in the amino acid sequence is altered, classified in class 435, subclass 440.

Group 56. Claims 72, 80—83 and 85, drawn method of altering enzyme properties of *Aspergillus niger* phytase comprising amino acid sequence

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of SEQ ID NO: 4, wherein the position 363 in the amino acid sequence is altered, classified in class 435, subclass 440.

The inventions are distinct, each from the other because of the following reasons:

Inventions in groups 1, 2...8 are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, inventions in groups 1 to 8 are different nucleotides, each encoding a protein having specific position of the amino acid sequence altered giving each of them unique structure, function and utility.

Inventions in groups 9, 10...16 are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, inventions in groups 9 to 16 are different polypeptides, each protein having specific position of the amino acid sequence altered giving each of them unique structure, function and utility.

Inventions groups 1, 2,3 ...and 8 and groups 9, 10... and 16 are related as process of making and product made respectively. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to

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make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case proteins of group 9 can be made other than using DNA, Vector and host cell of group 1, such as by chemical synthesis.

Inventions in groups 1-8 and groups 41-48 related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case products of groups 1-8(polynucleotide) can be used for different process than that of processes of groups 41-48, such as for making proteins of groups 9-16.

Inventions in groups 1-8, 17-40 and 49-56 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, polynucleotides, vector and host cells of groups 1-8 are niether used nor produced by methods of groups 17-48 and 49-56 .

Inventions in groups 9-16 and groups 17-40 related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially

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different process of using that product (MPEP § 806.05(h)). In the instant case products of groups 9-16 (protein) can be used for different process than that of processes of groups 17-40, such as for making antibody.

Inventions in groups 9-16 and 41-48 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, proteins of groups 1-8 are neither used nor produced by methods of groups 41-48.

Inventions in groups 9-16 and groups 49-56 related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case products of groups 9-16 (protein) can be used for different process than that of processes of groups 49-56, such as for making antibody.

Inventions in groups 17 to 56 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, each method of groups 17-48 involves different steps and use different product and produce different outcome from others of the groups.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

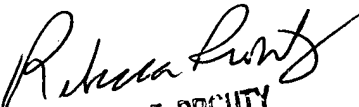
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Meah whose telephone number is 571-272-1261. The examiner can normally be reached on 8:30-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1652
1652

Mohammad Younus Meah, PhD

Examiner, Art Unit 1652

Recombinant Enzymes, 3C31 Remsen Bld

400 Dulany Street, Alexandria, VA 22314

Telephone: 517-272-1261